Polygonum spp. (amphibium) – Mixed Forbs Permanently Flooded Herbaceous Alliance

COMMON NAME	Water Smartweed Permanently Flooded Herbaceous Alliance
SYNONYM	Water Smartweed Wetland
PHYSIOGNOMIC CLASS	Herbaceous Vegetation (V)
PHYSIOGNOMIC SUBCLASS	Hydromorphic rooted vegetation (V.C)
PHYSIOGNOMIC GROUP	Temperate or subpolar hydromorphic rooted vegetation (V.C.2)
PHYSIOGNOMIC SUBGROUP	Natural/Semi-natural (V.C.2.N)
FORMATION	Permanently flooded temperate or subpolar hydromorphic rooted vegetation (V.C.2.N.a)
ALLIANCE	POLYGONUM AMPHIBIUM PERMANENTLY FLOODED HERBACEOUS ALLIANCE
CLASSIFICATION CONFIDENCE LEVEL	1
USFWS WETLAND SYSTEM	PALUSTRINE

RANGE

Lacreek National Wildlife Refuge

This association is common to drawdown and mudflat areas around the Refuge.

Globally

This alliance is found primarily in the western United States, Great Plains, and Canada, but may extend further east.

ENVIRONMENTAL DESCRIPTION

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The soils are usually saturated and support mixed weedy or annual forbs with little graminoid species.

Globally

This wetland occurs in shallow water around the edges of ponds and lakes in western North America. Elevation varies depending on geographical location. Stands reported along the Columbia River and in the Great Plains are located just above sea level, in Montana between 640-1080 m, in northeastern Utah at 1420 m, and in Colorado from 2050-2700 m. Sites include oxbow lakes and backwater areas of the Columbia floodplains, seasonally flooded basins in the floodplains of the Green River, in glacial ponds or prairie potholes in northern Montana, in shallow lakes in the mountains of Colorado, and in flooded basins in South Dakota and possibly the Sandhills of Nebraska. Stands are located in standing water that is permanent or present at least during the growing season. The pond bottoms are composed of finer sediments, organic muck, clay, or silt.

MOST ABUNDANT SPECIES

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Stratum	Species
FORB	*Polygonum amphibium*

Globally

Stratum	Species
FORB	*Polygonum amphibium*

CHARACTERISTIC SPECIES

Lacreek National Wildlife Refuge

Stratum	Species
FORB	*Polygonum amphibium*

Globally

Stratum	Species
FORB	*Polygonum amphibium*

VEGETATION DESCRIPTION

Lacreek National Wildlife Refuge

Overall diversity is low with only few annual forb or weedy species.

Globally

This wetland vegetation type occurs in shallow water along the edges of ponds and lakes. Floating-leaved aquatic forbs cover at least 30% of the water's surface (Kunze 1994). *Polygonum amphibium* often forms dense, nearly monotypic stands. *Lemna minor, Potamogeton natans, Sagittaria* spp., *Spirodela polyrrhiza*, and *Wolffia* spp. are occasionally present.

OTHER NOTEWORTHY SPECIES

CONSERVATION RANK G5.

DATABASE CODE CEGL2430 (CEGL002002)

MAP UNITS

COMMENTS

Lacreek National Wildlife Refuge

This type likely occurs as a result of pool management and fluctuating water levels.

Globally

This vegetation type is only classified to the alliance level. More work is needed to describe associations. In South Dakota, the species dominating this vegetation type is *Polygonum amphibium var. emersum* (denoted *as Polygonum coccineum* in South Dakota). In contrast to *Polygonum amphibium var. amphibium*, an obligate wetland plant, this species is a facultative wetland plant. It is very well adapted to fluctuating water levels and even able to climb out into the upland margins of prairie wetlands (D. Ode, personal communication). Almost pure stands of *Polygonum amphibium var. emersum* can occur in areas originally dominated by a mixture of *Eleocharis palustris* and *P. amphibium var. emersum* and sometimes *Hordeum jubatum* (D. Ode, personal communication). This occurs with a flooding of these basins during *which Eleocharis palustris* would decompose, leaving the basin with 50% coverage by *Polygonum*. In the first

year of drawdown following the flooding, the *Polygonum* community would persist; however, by the second year, the *Eleocharis* would reestablish and cause a shift back to the original mixed species community type (D. Ode, personal communiciation). Further review is needed to determine if those stands dominated by *Polygonum amphibium var. emersum* need to be separate types from those dominated by *Polygonum amphibium var. amphibium* and/or a *Eleocharis palustris - Polygonum amphibium* type.

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